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PATENT
ATTORNEY DOCKET NO.: 049128-5052

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:)	
)	
Jae Yong PARK, <i>et al.</i>)	Confirmation No.: 1161
)	
Application No. 10/020,986)	Group Art Unit: 2879
)	
Filed: December 19, 2001)	Examiner: Roy, Sihka
)	
For: ELECTRO-LUMINESCENCE DEVICE)	Mail Stop Appeal Brief-Patents
WITH IMPROVED THERMAL)	
CONDUCTIVITY (As Amended))	

Commissioner for Patents
U.S. Patent and Trademark Office
Mail Stop Appeal Brief-Patents
Alexandria, VA 22314

APPELLANTS' BRIEF TRANSMITTAL FORM

1. Transmitted herewith is the Appellants' Brief Under 37 C.F.R. 1.192, which is being submitted further to the Notice of Appeal filed December 7, 2005.
2. Additional papers enclosed.
 - ☒ Copy of Appellants' Brief Under 37 C.F.R. § 41.37 filed January 24, 2005.
 - ☐ Information Disclosure Statement
 - ☐ Form PTO-1449, ___ references included
 - ☐ Citations
 - ☐ Declaration of Biological Deposit
 - ☐ Submission of "Sequence Listing", computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.
3. Oral Hearing Under 37 C.F.R. 1.194
 - ☐ Oral hearing is hereby requested.
 - ☐ Fee under 37 C.F.R. 1.17(d) is enclosed.

4. Extension of time

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

- ☐ Appellants petition for an extension of time, the fees for which are set out in 37 CFR 1.17(a)-(d), for the total number of months checked below:

<u>Total months requested</u>	<u>Fee for extension</u>	<u>[fee for Small Entity]</u>
<input type="checkbox"/> one month	\$ 120.00	\$ 60.00
<input type="checkbox"/> two months	\$ 450.00	\$ 225.00
<input type="checkbox"/> three months	\$ 1,020.00	\$ 510.00
<input type="checkbox"/> four months	\$1,590.00	\$ 795.00
<input type="checkbox"/> five months	\$2,160.00	\$1,080.00

Extension of time fee due with this request:

\$0.00

If an additional extension of time is required, please consider this a Petition therefor.

5. Fee Payment

- ☐ No fee is to be paid at this time.
- ☒ The Commissioner is hereby authorized to charge **\$500.00** for the Appellants' Brief filing fee due to Deposit Account No. 50-0310.
- ☒ The Commissioner is hereby authorized to charge any fees including fees due under 37 CFR 1.16 and 1.17 which may be required, or credit any overpayment to Deposit Account No. 50-0310.

Respectfully submitted,

MORGAN, LEWIS & BOCKIUS

By: 

Xiaobin You

Reg. No. L0112

Dated: February 7, 2006

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Sir:

APPELLANTS' BRIEF UNDER 37 C.F.R. § 41.37

Appellants submit this brief in furtherance of the Notice of Appeal filed on December 7, 2005 in connection with the above-identified patent application, and appealing the final rejections of claims 1 and 4-33 by the United States Patent and Trademark Office in a Final Office Action dated September 7, 2005 (Paper No. 0905). The fee required under 37 C.F.R. § 41.20 (b)(2) is being filed concurrently herewith. The period for filing this brief extends through February 7, 2006.

02/09/2006 HALI11 00000024 500310 10020986
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(i). **Real Parties in Interest**

The real parties in interest in this appeal are LG. Philips LCD Co., Ltd. of Seoul, Korea.

(ii). **Related Appeals and Interferences**

Appellants filed an Appeal Brief under 37 C.F.R. § 41.37 on January 24, 2005. The Appeal Brief was entered. However, the Office withdrew the finality of a Final Office Action dated April 22, 2004 and issued a non-final Office Action on March 18, 2005.

(iii). **Status of Claims**

The status of the claims is as follows:

Claims canceled: 2, 3

Claims withdrawn from consideration but not canceled: None

Claims pending: 1 and 4-33

Claims allowed: None

Claims rejected: 1 and 4-33

The claims on appeal are 1 and 4-33.

(iv). **Status of Amendments**

On June 20, 2005, Appellants filed an Amendment in response to the Office Action dated March 18, 2005. The Amendment filed on March 18, 2005 proposed to amend each of independent claims 10, 19 and 26 to differently define embodiments of the disclosed invention and to improve their form, and also to add a new claim 34. A Final Office Action was issued on September 7, 2005, rejecting claims 1 and 4-34.

(v). **Summary of the Claimed Subject Matter**

Appellants' invention relates generally to an electro-luminescence device. The claims on appeal are set forth in (viii) **Claims Appendix** herein. Attention is particularly directed to paragraph [0017] of page 5 to paragraph [0024] of page 7 of the specification and to FIGs. 1-8.

Independent Claim 1

Generally, in one aspect, as shown for example in FIG. 2, Appellants' electro-luminescence device includes a transparent substrate 11, a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate 11, a plurality of pixel electrodes 12a formed on the plurality of pixel areas, an electro-luminescent layer 13 formed over the plurality of pixel electrodes 12a, a metal electrode 14 formed on the electro-luminescent layer 13, a seal cover plate 17 for sealing the electro-luminescent layer 13, a sealant 16 for adhering the seal cover plate 17 to the transparent substrate 11, a heat-exhausting layer 21 formed on the metal electrode 14, and a protective film 15 formed between the seal cover plate 17 and the heat-exhausting layer 21 wherein the protective film 15 has a multi-layer structure of at least a moisture-absorbing layer and a moisture-proof layer.

Independent Claim 10

In another aspect, as shown for example in FIG. 3, Appellants' electro-luminescence device includes a transparent substrate 11, a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate 11, a plurality of pixel electrodes 12a formed on the plurality of pixel areas, an electro-luminescent layer 13 over the plurality of pixel electrodes 12a, a metal electrode 14 formed on the electro-luminescent

layer 13, a seal cover plate 17 for sealing the electro-luminescent layer 13, a sealant 16 for adhering the seal cover plate 17 to the transparent substrate 11, and a heat-exhausting layer 21 formed on the seal cover plate 17, wherein an entire surface of the heat-exhausting layer 21 contacts the seal cover plate 17.

Independent Claim 19

In yet another aspect, as shown for example in FIG. 4, Appellants' electro-luminescence device includes a transparent substrate 11, a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate 11, a plurality of pixel electrodes 12a formed on the plurality of pixel areas, an electro-luminescent layer 13 over the plurality of pixel electrodes 12a, a metal electrode 14 formed on the electro-luminescent layer 13, a protective film 15 formed on the metal electrode 14 to prevent exposure of the metal electrode 14, and a heat-exhausting layer 21 provided on the protective film 15, wherein the heat-exhausting layer 21 extends to contact the transparent substrate 11 to cover the protective film 15.

Independent Claim 26

In yet another aspect, as shown for example in FIG. 6, Appellants' electro-luminescence device includes a transparent substrate 31, a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate 31, a plurality of pixel electrodes 32a formed on the plurality of pixel areas, an electro-luminescent layer 33 over the plurality of pixel electrodes 32a, a metal electrode 34 formed on the electro-luminescent layer 33, a seal cover plate 37 formed in a plane to seal the electro-luminescent layer 33, a metal

thin film 41 provided under the seal cover plate 37 to transfer heat, and a sealant 36 for adhering the seal cover plate 37 and the metal thin film 41 to the transparent substrate 31, said sealant 36 having a space for injecting an inactive gas, wherein an entire surface of the metal thin film 41 contacts the seal cover plate 37.

(vi). **Grounds of Rejection to Be Reviewed On Appeal**

The rejections at issue are as follows:

Claims 1, 4-6, 9 and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Appellants' Admitted Prior Art (hereinafter "AAPA") in view of Yang et al. (U.S. Patent No. 6,383,048) (hereinafter "Yang") and further in view of Gyotoku et al. (U.S. Patent No. 6,195,142) (hereinafter "Gyotoku").

Claims 10, 11, 13-15, 18-21 and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang.

Claims 26-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and in view of Shi et al. (U.S. Patent No. 5,811,177) (hereinafter "Shi").

Claims 12 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Gyotoku.

Claims 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA, Yang and Gyotoku and further in view of Gledhill et al. (U.S. Patent No. 6,180,176) (hereinafter "Gledhill").

Claims 16-17 and 23-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Gledhill.

(vii). **Arguments**

(a) Rejections under 35 U.S.C. § 112, first paragraph

No claims are presently rejected under 35 U.S.C. § 112, first paragraph.

(b) Rejections under 35 U.S.C. § 112, second paragraph

No claims are presently rejected under 35 U.S.C. § 112, second paragraph.

(c) Rejections under 35 U.S.C. § 102

No claims are presently rejected under 35 U.S.C. § 102.

(d) Rejections under 35 U.S.C. § 103

(1) Claims 1, 4-6, 9 and 34

Claims 1, 4-6, 9 and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Yang and further in view of Gyotoku, Appellants respectfully submit that claim 1 and its dependent claims 4-6, 9 and 34 are allowable for at least the following reasons.

With regard to independent claim 1, Appellants respectfully submit that AAPA, Yang and Gyotoku, whether taken singly or combined, do not teach or suggest the claimed combination, including at least the recited feature of “the protective film has a multi-layer structure of at least a moisture-absorbing layer and a moisture-proof layer.”

The Office in the final Office Action dated September 7, 2005 concedes that AAPA and Yang fail to teach such a “protective film” having “a multi-layer structure.” However, the Office alleges at Page 13 that “Gyotoku discloses (column 3 lines 40-44) that to eliminate growth of dark spots completely it is necessary to shut off nearly completely invasion of moisture or oxygen into the material used in the cathode or organic film layer,” and “Gyotoku teaches (column 9 lines 15-19) Ag or In used as material for the second metal film (moisture-proof layer) is capable of effectively preventing growth of dark spots and transitional decline of luminance of

light emission.” Based on these allegations, the Office appears to conclude that the metal film 7b of Gyotoku, allegedly suggested as the claimed “moisture-proof layer,” is capable of shutting off invasion of moisture. Appellants respectfully disagree at least because Gyotoku fails to teach or suggest that the metal film 7b is a moisture-proof layer.

While Gyotoku does mention in col. 3, lines 41-43 that “it is necessary to shut off nearly completely invasion of moisture or oxygen into the material used in the cathode 66 or organic film layer 63,” Appellants respectfully note that it does NOT mean that the invasion of moisture is shut off by the metal layer 7b or that the metal layer 7b is a “moisture-proof layer”. As described in column 9, lines 10-19 for example, Gyotoku discloses that a metal film formed on the insulating compound layer can suppress transitional decline of luminance of light emission, and the material of Ag or In is preferred for being capable of effectively preventing growth of dark spots and transitional decline of luminance of light emission. Appellants respectfully submit that Gyotoku merely discloses the metal layer 7b to increase the film thickness of the protective layer 7 and to suppress transitional decline of luminance of light emission, rather than to eliminate moisture.

Since AAPA and Yang are not relied upon to remedy the above-noted deficiencies of Gyotoku, Appellants respectfully submit that AAPA, Yang and Gyotoku, whether taken separately or in combination, do not teach or suggest a claimed combination including at least a feature of “a protective film formed between the seal cover plate and the heat-exhausting layer wherein the protective film has a multi-layer structure of at least a moisture-absorbing layer and a moisture-proof layer,” as recited by independent claim 1.

Accordingly, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claim 1 and therefore the rejection of claim 1 should be withdrawn. Furthermore, Appellants respectfully assert that the rejection of claims 4-6, 9 and 34 should also be withdrawn at least because of their dependencies upon claim 1 and for the reasons set forth above.

(2) Claims 10, 11, 13-15, 18-21 and 25

Claims 10, 11, 13-15, 18-21 and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang, Appellants respectfully submit that claims 10, 11, 13-15, 18-21 and 25 are allowable for at least the following reasons.

With regard to independent claim 10, Appellants still respectfully submit that AAPA and Yang, whether taken separately or in combination, do not teach or suggest a claimed combination including at least a feature of “an entire surface of the heat-exhausting film contacts the seal cover plate.”

The Office in the Final Office Action dated September 7, 2005 concedes that AAPA fails to disclose the above-noted feature of independent claim 10, but alleges that Yang teaches that “a heat-exhausting layer 40 (covering layer) made of metals of high thermal conductivity is formed on top of the seal cover film 38 (which covers the electroluminescent element sealing from outside), wherein the entire surface of the heat-exhausting film 40 contacts the seal cover 38 and thus enhances the effect of heat dissipation.” Appellants respectfully disagree.

It appears that the Final Office Action suggests an aluminum nitride layer 38 of Yang allegedly as the claimed “seal cover plate.” In contrast to the present invention of independent claim 10 wherein the claimed “seal cover plate” serves to **seal** the electro-luminescent layer, in

Yang, the aluminum nitride layer 38 merely covers cathodes 36 and an organic polymer luminant layer 34 of the organic polymer EL display but does NOT cover the anodes 32 of the organic polymer EL display, as illustrated in FIG. 3D of Yang. That is, the aluminum nitride layer 38 merely covers part of the organic polymer EL display. Therefore, Appellants respectfully submit that the aluminum nitride layer 38 of Yang does NOT seal the organic polymer EL display. In other words, Appellants respectfully submit that AAPA and Yang, whether taken separately or in combination, do not teach or suggest the claimed combination including at least the feature of “an entire surface of the heat-exhausting film contacts the seal cover plate,” as recited by independent claim 10.

Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claim 10 and therefore the rejection of claim 10 should be withdrawn. Furthermore, Appellants respectfully assert that the rejection of claims 11, 13-15 and 18 should also be withdrawn at least because of their dependencies upon claim 10 and for the reasons set forth above.

With regard to independent claim 19, Appellants still respectfully submit that AAPA and Yang, whether taken individually or in combination, do not teach or suggest a claimed combination including at least a feature of “the heat-exhausting film extends to contact the transparent substrate to cover the protective layer.”

The Office in the Final Office Action dated September 7, 2005 concedes that AAPA fails to disclose the above-noted feature of independent claim 19, but alleges that Yang teaches that a package shell 29 extends to contact an ITO glass 20 at locations between the anodes 20.

Appellants respectfully disagree for at least the following reasons.

As illustrated in FIGs. 2C and 2D, Yang merely discloses that the package shell 29 covers a heat dissipating layer 28 by being fixed on the aluminum nitride layer 28 and on the anode 22 via an agglutinant 27. As described in col. 4, lines 17-20, Yang merely teaches performing the seal process by using the agglutinant 27 consisting of epoxide to fix the packaging shell 29 on the top of the heat-dissipating layer. However, Yang fails to teach or suggest that the package shell 29 (which the Office alleges corresponds to the “heat-exhausting film”) contacts a “transparent substrate” to cover the aluminum nitride layer 28 (which the Office apparently alleges corresponds to the “protective layer”).

Accordingly, Appellants respectfully submit that AAPA and Yang, whether taken separately or in combination, do not teach or suggest the claimed combination including at least the feature of “the heat-exhausting film extends to contact the transparent substrate to cover the protective layer,” as recited by independent claim 19.

Thus, Appellants respectfully submit that the Final Office Action has not established a prima facie case of obviousness against claim 19 and therefore the rejection of claim 19 should be withdrawn. Furthermore, Appellants respectfully assert that the rejection of claims 20-21 and 25 should also be withdrawn at least because of their dependencies upon claim 19 and for the reasons set forth above.

(3) Claims 26-33

Claims 26-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and in view of Shi. Appellants respectfully traverse this rejection for at least the following reasons.

With regard to independent claim 26, Appellants respectfully submit that AAPA and Shi, whether taken separately or in combination, do not teach or suggest a claimed combination including at least a feature of “a sealant for adhering the seal cover plate and the metal thin film to the transparent substrate.”

The Office in the Final Office Action dated September 7, 2005 concedes that AAPA fails to disclose the above-noted feature of independent claim 26, but alleges that Shi teaches an inorganic layer 26 under an epoxy encapsulant 28, wherein the entire surface of the inorganic layer 26 contacts the epoxy encapsulant 28. The Office appears to allege that the inorganic layer 26 of Shi corresponds to the claimed “metal thin film” and that the epoxy encapsulant 28 corresponds to the claimed “seal cover plate.” However, in contrast to the present invention of independent claim 26, in Shi, both the inorganic layer 26 and the epoxy encapsulant 28 do NOT adhere to a substrate 10. Thus, Appellants respectfully submit that AAPA and Shi, whether taken separately or in combination, do not teach or suggest the claimed combination including at least the feature of “a sealant for adhering the seal cover plate and the metal thin film to the transparent substrate,” as recited by independent claim 26.

Accordingly, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claim 26 and therefore the rejection of claim 26 should be withdrawn. Furthermore, Appellants respectfully assert that the rejection of claims 27-33 should also be withdrawn at least because of their dependencies upon claim 26 and for the reasons set forth above.

(4) Claims 12 and 22

Claims 12 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Gyotoku.

Appellants respectfully submit that the Final Office Action of September 7, 2005 does not rely upon Gyotoku to remedy the deficiencies of AAPA and Yang, as discussed in Section (2). Further, Appellants respectfully submit that Gyotoku cannot remedy the deficiencies of AAPA and Yang. Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claims 12 and 22 and therefore the rejection of claims 12 and 22 should be withdrawn at least because of their dependencies upon the respective claims 10 and 19 and for the reasons set forth in Section (2).

(5) Claims 7 and 8

Claims 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA, Yang and Gyotoku and further in view of Gledhill et al. (U.S. Patent No. 6,180,176) (hereinafter "Gledhill").

Appellants respectfully submit that the Final Office Action of September 7, 2005 does not rely upon Gledhill to remedy those deficiencies of AAPA, Yang and Gyotoku, as discussed above in Section (1). Further, Appellants respectfully submit that Gledhill cannot remedy the deficiencies of AAPA, Yang and Gyotoku. Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claims 7 and 8.

Accordingly, Appellants respectfully assert that the rejection of claims 7 and 8 should also be withdrawn at least because of their dependencies upon claim 1 and for the reasons set forth in Section (1).

(6) Claims 16-17 and 23-24

Claims 16-17 and 23-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Gledhill.

Appellants respectfully submit that the Final Office Action of September 7, 2005 does not rely upon Gledhill to remedy the deficiencies of AAPA and Yang, as discussed in Section (2). Further, Appellants respectfully submit that Gledhill cannot remedy the deficiencies of AAPA and Yang.

Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claims 16-17 and 23-24 and therefore the rejection of claims 16-17 and 23-24 should be withdrawn at least because of their dependencies upon claims 10 and 19 and for the reasons set forth above.

#

Therefore, Appellants respectfully assert that independent claims 1, 10, 19 and 26 are in condition for allowance because the all cited references, whether taken singly or combined, do not teach or suggest at least the above cited features. As pointed out in MPEP § 2143.03 instructs that "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974)." Furthermore, Appellants respectfully assert that dependent claims 4-9, 11-18, and 27-34 under 35 U.S. C. § 103(a) are also in condition for allowance at least because of their dependencies upon the respective independent claims 1, 10, 19 and 26, and for the reasons set forth above.

(e) Other Rejections

No claims are presently rejected under grounds other than those referred to above.

* * * * *

In view of the foregoing, Appellants respectfully request the reversal of the Examiner's rejections and the allowance of the pending claims 1 and 4-34. If there are any other fees due in connection with the filing of this Brief, please charge the fees to our Deposit Account

No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account No. 50-0310.

Respectfully submitted,

MORGAN, LEWIS & BOCKIUS LLP

By: 

Xiaobin You
Reg. No. L0112

Dated: February 7, 2006

Customer No.: 009629

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(viii). **Claims Appendix**

The text of the claims involved in the appeal are:

Claim 1 (previously presented): An electro-luminescence device, comprising:

a transparent substrate;

a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;

an electro-luminescent layer formed over the plurality of pixel electrodes;

a metal electrode formed on the electro-luminescent layer;

a seal cover plate for sealing the electro-luminescent layer;

a sealant for adhering the seal cover plate to the transparent substrate;

a heat-exhausting layer formed on the metal electrode; and

a protective film formed between the seal cover plate and the heat-exhausting layer

wherein the protective film has a multi-layer structure of at least a moisture-absorbing layer and a moisture-proof layer.

Claims 2-3 (cancelled)

Claim 4 (original): The electro-luminescence device according to claim 1, further comprising:

a moisture-absorbing agent provided at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

Claim 5 (previously presented): The electro-luminescence device according to claim 4, further comprising:

a semi-transmissive film for supporting the moisture absorbing agent to be held at the inner side of the seal cover plate.

Claim 6 (previously presented): The electro-luminescence device according to claim 4, wherein the moisture-absorbing agent is selected from any one of BaO, CaO, CaCO₃, zeolite, silicagel and alumina.

Claim 7 (original): The electro-luminescence device according to claim 1, wherein the heat-exhausting layer is formed from a carbon group material.

Claim 8 (original): The electro-luminescence device according to claim 7, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.

Claim 9 (original): The electro-luminescence device according to claim 1, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.

Claim 10 (previously presented): An electro-luminescence device, comprising:
a transparent substrate;

a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;

an electro-luminescent layer over the plurality of pixel electrodes;

a metal electrode formed on the electro-luminescent layer;

a seal cover plate for sealing the electro-luminescent layer;

a sealant for adhering the seal cover plate to the transparent substrate; and

a heat-exhausting layer formed on the seal cover plate, wherein an entire surface of the heat-exhausting film contacts the seal cover plate.

Claim 11 (original): The electro-luminescence device according to claim 10, further comprising:

a protective film formed on the metal electrode.

Claim 12 (original): The electro-luminescence device according to claim 11, wherein the protective film has a single-layer structure of a moisture-absorbing layer or a moisture-proof layer, or a multi-layer structure of the moisture-absorbing layer and the moisture-proof layer.

Claim 13 (original): The electro-luminescence device according to claim 10, further comprising:

a moisture-absorbing agent provided at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

Claim 14 (previously presented): The electro-luminescence device according to claim 13, further comprising:

a semi-transmissive film for supporting the moisture absorbing agent to be held at the inner side of the seal cover plate.

Claim 15 (previously presented): The electro-luminescence device according to claim 13, wherein the moisture-absorbing agent is selected from any one of BaO, CaO, CaCO₃, zeolite, silicagel and alumina.

Claim 16 (original): The electro-luminescence device according to claim 10, wherein the heat-exhausting layer is formed from a carbon group material.

Claim 17 (original): The electro-luminescence device according to claim 16, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.

Claim 18 (original): The electro-luminescence device according to claim 10, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.

Claim 19 (previously presented): An electro-luminescence device, comprising:
a transparent substrate;
a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;
 an electro-luminescent layer over the plurality of pixel electrodes;
 a metal electrode formed on the electro-luminescent layer;
 a protective film formed on the metal electrode to prevent exposure of the metal electrode; and
 a heat-exhausting layer provided on the protective film, wherein the heat-exhausting film extends to contact the transparent substrate to cover the protective layer.

Claim 20 (original): The electro-luminescence device according to claim 19, further comprising:

a seal cover plate provided on the heat-exhausting layer to seal the electro-luminescent layer; and
 a sealant for adhering the seal cover plate to the transparent substrate.

Claim 21 (previously presented): The electro-luminescence device according to claim 20, wherein said heat-exhausting layer prevents exposure of the protective film.

Claim 22 (original): The electro-luminescence device according to claim 19, wherein the protective film has a single-layer structure of a moisture-absorbing layer or a moisture-proof layer, or a multi-layer structure of the moisture-absorbing layer and the moisture-proof layer.

Claim 23 (original): The electro-luminescence device according to claim 19, wherein the heat-exhausting layer is formed from a carbon group material.

Claim 24 (original): The electro-luminescence device according to claim 23, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.

Claim 25 (original): The electro-luminescence device according to claim 19, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.

Claim 26 (previously presented): An electro-luminescence device, comprising:

- a transparent substrate;
- a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;
- a plurality of pixel electrodes formed on the plurality of pixel areas;
- an electro-luminescent layer over the plurality of pixel electrodes;
- a metal electrode formed on the electro-luminescent layer;
- a seal cover plate formed in a plane to seal the electro-luminescent layer;
- a metal thin film provided under the seal cover plate to smoothly transfer heat; and
- a sealant for adhering the seal cover plate and the metal thin film to the transparent substrate, said sealant having a space for injecting an inactive gas, wherein an entire surface of the metal thin film contacts the seal cover plate.

Claim 27 (original): The electro-luminescence device according to claim 26, further comprising:

a moisture-absorbing agent formed at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

Claim 28 (previously presented): The electro-luminescence device according to claim 27, further comprising:

a semi-transmissive film for supporting the moisture absorbing agent to be held at the inner side of the seal cover plate.

Claim 29 (previously presented): The electro-luminescence device according to claim 28, wherein the moisture-absorbing agent is selected from any one of BaO, CaO, CaCO₃, zeolite, silicagel and alumina.

Claim 30 (original): The electro-luminescence device according to claim 28, wherein the metal thin film is provided between the seal cover plate and the moisture-absorbing agent and adheres to the entire surface of the seal cover plate.

Claim 31 (original): The electro-luminescence device according to claim 28, wherein the metal thin film adheres to a portion of the seal cover plate on which the moisture-absorbing agent is not formed.

Claim 32 (original): The electro-luminescence device according to claim 28, wherein the metal thin film adheres to a portion of the seal cover plate on which the moisture-absorbing agent is not formed and the sealant is not attached.

Claim 33 (previously presented): The electro-luminescence device according to claim 26, wherein the sealant is made from an epoxy resin.

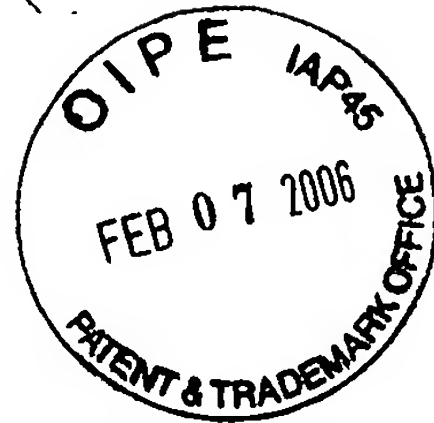
Claim 34 (previously presented): The electro-luminescence device according to claim 1, wherein the protective film extends to contact the transparent substrate to seal the heat-exhausting layer.

(ix). **Evidence Appendix**

The Appeal Brief filed January 24, 2005 and entered by the Examiner is submitted concurrently herewith for reference.

(x). **Related Proceedings Appendix**

No information is appended under this section.



PATENT
ATTORNEY DOCKET NO.: 049128-5052

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:)	
Jae Yong PARK, <i>et al.</i>)	Confirmation No.: 1161
Application No. 10/020,986)	Group Art Unit: 2879
Filed: December 19, 2001)	Examiner: Roy, Sihka
For: ELECTRO-LUMINESCENCE DEVICE)	Mail Stop Appeal Brief-Patents
WITH IMPROVED THERMAL)	
CONDUCTIVITY (As Amended))	

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Window, Mail Stop Appeal Brief-Patents
Alexandria, VA 22314

Sir:

APPELLANTS' BRIEF UNDER 37 C.F.R. § 41.37

This brief is in furtherance of the Notice of Appeal filed on September 22, 2004 in connection with the above-identified patent application, and appealing the final rejections of claims 1 and 4-33 by the United States Patent and Trademark Office in a Final Office Action dated April 22, 2004 (Paper No. 0404). The fee required under 37 C.F.R. § 41.20 (b)(2) is being filed concurrently herewith. The period for filing this brief extends through January 24, 2005 (January 22, 2005 being a Saturday and January 23, 2005 being a Sunday) by the concurrent filing of a request for two-month extension of time and corresponding fee payment.

1. **Real Parties in Interest**

The real parties in interest in this appeal are LG. Philips LCD Co., Ltd. of Seoul, Korea.

2. **Related Appeals and Interferences**

Appellants are not aware of any other appeals or interferences that will directly affect, will be directly affected by, or will otherwise have a bearing on, the decision in this appeal.

3. **Status of Claims**

The status of the claims is as follows:

Claims canceled: 2, 3

Claims withdrawn from consideration but not canceled: None

Claims pending: 1 and 4-33

Claims allowed: None

Claims rejected: 1 and 4-33

The claims on appeal are 1 and 4-33.

4. **Status of Amendments**

On July 22, 2004, Appellants filed a Amendment under 37 C.F.R. § 1.116 in response to the Final Office Action dated April 22, 2004. The Amendment under 37 C.F.R. § 1.116 filed on July 22, 2004 proposed to cancel claim 3 and included remarks on the patentability of the claims. An Advisory Action mailed on August 11, 2004 indicated that the Amendment filed under 37 C.F.R. §1.116 had been considered but did not place the application in condition for allowance

and also for purpose of Appeal, the proposed amendments will not be entered. On October 22, 2004, Appellants filed a Second Amendment under 37 C.F.R. § 1.116 to request entry of cancellation of claim 3 to place the application in better form for appeal. Advisory Action dated November 19, 2004 indicates entry of the Amendment filed October 22, 2004 – claim 3 is canceled.

5. Summary of the Claimed Subject Matter

Appellants' invention relates generally to an electro-luminescence device. The claims on appeal are set forth in the Appendix herein. Attention is particularly directed to paragraph [0017] of page 5 to paragraph [0024] of page 7 of the specification and to FIGs. 1-8.

Independent Claim 1

Generally, in one aspect, as shown in FIG. 2, Appellants' electro-luminescence device includes a transparent substrate 11, a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate 11, a plurality of pixel electrodes 12a formed on the plurality of pixel areas, an electro-luminescent layer 13 formed over the plurality of pixel electrodes 12a, a metal electrode 14 formed on the electro-luminescent layer 13, a seal cover plate 17 for sealing the electro-luminescent layer 13, a sealant 16 for adhering the seal cover plate 17 to the transparent substrate 11, and a heat-exhausting layer 21 formed on the metal electrode 14.

Independent Claim 10

In another aspect, as shown in FIG. 3, Appellants' electro-luminescence device includes a transparent substrate 11, a plurality of pixel areas including a plurality of scanning lines and a

plurality of data lines formed on the transparent substrate 11, a plurality of pixel electrodes 12a formed on the plurality of pixel areas, an electro-luminescent layer 13 over the plurality of pixel electrodes 12a, a metal electrode 14 formed on the electro-luminescent layer 13, a seal cover plate 17 for sealing the electro-luminescent layer 13, a sealant 16 for adhering the seal cover plate 17 to the transparent substrate 11, and a heat-exhausting layer 21 formed on the seal cover plate 17.

Independent Claim 19

In yet another aspect, as shown in FIG. 4, Appellants' electro-luminescence device includes a transparent substrate 11, a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate 11, a plurality of pixel electrodes 12a formed on the plurality of pixel areas, an electro-luminescent layer 13 over the plurality of pixel electrodes 12a, a metal electrode 14 formed on the electro-luminescent layer 13, a protective film 15 formed on the metal electrode 14 to prevent exposure of the metal electrode 14, and a heat-exhausting layer 21 provided on the protective film 15.

Independent Claim 26

In yet another aspect, as shown in FIG. 6, Appellants' electro-luminescence device includes a transparent substrate 31, a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate 31, a plurality of pixel electrodes 32a formed on the plurality of pixel areas, an electro-luminescent layer 33 over the plurality of pixel electrodes 32a, a metal electrode 34 formed on the electro-luminescent layer 33, a seal cover plate 37 formed in a plane to seal the electro-luminescent layer 33, a metal thin film 41 provided under the seal cover plate 37 to smoothly transfer heat, and a sealant 36 for

adhering the seal cover plate 37 and the metal thin film 41 to the transparent substrate 31, said sealant 36 having a space for injecting an inactive gas.

6. **Grounds of Rejection to Be Reviewed On Appeal**

The rejections at issue are as follows:

Claims 1, 4-6 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Appellants' Admitted Prior Art (hereinafter "AAPA") in view of Yang et al. (U.S. Patent No. 6,383,048) (hereinafter "Yang") and further in view of Gyotoku et al. (U.S. Patent No. 6,195,142) (hereinafter "Gyotoku").

Claims 10, 11, 13-15, 18-21 and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang.

Claims 26-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and in view of Shi et al. (U.S. Patent No. 5,811,177) (hereinafter "Shi").

Claims 12 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Gyotoku.

Claims 12 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Nakaya et al. (U.S. Patent No. 6,172,458) (hereinafter "Nakaya").

Claims 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA, Yang and Gyotoku and further in view of Gledhill et al. (U.S. Patent No. 6,180,176) (hereinafter "Gledhill").

Claims 16-17 and 23-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Gledhill.

7. Arguments

(i) Rejections under 35 U.S.C. § 112, first paragraph

No claims are presently rejected under 35 U.S.C. § 112, first paragraph.

(ii) Rejections under 35 U.S.C. § 112, second paragraph

No claims are presently rejected under 35 U.S.C. § 112, second paragraph.

(iii) Rejections under 35 U.S.C. § 102

No claims are presently rejected under 35 U.S.C. § 112, second paragraph.

(iii) Rejections under 35 U.S.C. § 103

(1) Claims 1, 4-6 and 9

Claims 1, 4-6 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Yang and further in view of Gyotoku, Appellants respectfully submit that claim 1 and its dependent claims 4-6 and 9 are allowable for at least the following reasons.

With regard to independent claim 1, Appellants respectfully submit that AAPA, Yang and Gyotoku, whether taken singly or combined, do not teach or suggest the claimed combination, including at least the recited feature of “the protective film has a multi-layer structure of at least a moisture-absorbing layer and a moisture-proof layer.”

The Office Action on the page 3 concedes that AAPA and Yang “fail to disclose the protective film having multi-layer structure of at least a moisture absorbing layer and a moisture-proof layer.” To remedy this deficiency, the Office Action alleges that Gyotoku discloses such a

protective film by citing to insulating compound layer 7a and metal layer 7b disclosed at lines 32-46 of column 4, lines 33-36 of column 7, lines 5-15 of column 9 and in Fig. 6. Moreover, the Advisory Action alleges that Gyotoku discloses a protective film having two layers, a first layer being a moisture absorbing insulating compound layer and a second layer being a thin metal material of Ag, In, Cu. Then, the Advisory Action cites to U.S. Patent 6,696,178 to Igarashi (column 17 lines 13-20) as evidence of showing the moisture proof capability of such materials. Appellants respectfully disagree.

Appellants respectfully submit that there is no teaching or suggestion to modify or combine AAPA and Yang with Gyotoku to have the feature of "the protective film has a multi-layer structure of at least a moisture-absorbing layer and a moisture-proof layer," as recited by independent claim 1. In contrast to the present invention, Gyotoku disclose a protective layer 7 consisting of an insulating compound layer 7a and a metal layer 7b, but neither teaches nor suggests that the metal layer 7b is used as the claimed moisture-proof layer. In fact, the metal layer 7b of Gyotoku is disclosed to have a purpose of increasing the film thickness of the protective layer 7 and suppressing transitional decline of luminance of light emission, as disclosed at col. 8, lines 40-43, rather than any properties of moisture proofing. In contrast to the Office Action's assertions relating to moisture proofing, there is no teaching or suggestion to use the metal layer 7b for purposes of moisture proofing as alleged by the Office Action.

Appellants respectfully submit that Gyotoku never teaches or suggests that the metal layer 7b of the protective layer 7 may be used as a moisture-proof layer and that the insulating compound layer 7a of the protective layer 7 is the only moisture prevention layer. MPEP § 2143.01 instructs that "[t]he mere fact that references can be combined or modified does not

render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990)." MPEP § 2143.01 further instructs that "[a]lthough a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.'" Appellants respectfully submit that the only motivation to piece together AAPA, Yang and Gyotoku is found in the Appellants' own application. MPEP 2143 instructs that "the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Appellant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ 1438 (Fed. Cir. 1991)." The Federal Circuit has clearly held that "the motivation to combine references cannot come from the invention itself." Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc., 21 F.3d 1068, 30 USPQ 2d 1377 (Fed. Cir. 1993). Thus, Appellants respectfully assert that there is no motivation to combine Gyotoku with AAPA and Yang to teach or suggest the claimed combination including "the protective film has a multi-layer structure of at least a moisture-absorbing layer and a moisture-proof layer," as recited in independent claim 1.

Accordingly, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claim 1 and therefore the rejection of claim 1 should be withdrawn. Furthermore, Appellants respectfully assert that the rejection of claims 4-6 and 9 should also be withdrawn at least because of their dependencies upon claim 1 and for the reasons set forth above.

(2) Claims 10, 11, 13-15, 18-21 and 25

Claims 10, 11, 13-15, 18-21 and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang, Appellants respectfully submit that claims 10, 11, 13-15, 18-21 and 25 are allowable for at least the following reasons.

With regard to independent claim 10, Appellants respectfully submit that AAPA and Yang, whether taken singly or combined, do not teach or suggest the claimed combination, including at least the recited feature of a transparent substrate, a seal cover plate, and a sealant for adhering the seal cover plate to the transparent substrate as claimed.

The Office Action concedes at page 5 that AAPA fails to disclose a heat exhausting layer formed on the seal cover plate, but alleges Yang that discloses a heat-exhausting layer 40 deposited on top of the organic polymer EL display by citing to disclosure in Fig. 3D and at lines 55-60 of column 4. Moreover, the Advisory Action alleges that Yang teaches that a metal layer enhances heat dissipation and hence it would have been obvious to one of ordinary skill in the art to combine the teachings of Yang with AAPA providing the heat-exhausting layer over the seal cover plate. Appellants respectfully disagree.

Appellants respectfully submit that the cited portion of Yang discloses a different type of EL device. Specifically, Yang does not disclose an EL device of the type having a cover plate as a seal structure. Thus, one would not be motivated to consider the sealing structure of a device having an entirely different type of sealing structure.

Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claim 10 and therefore the rejection of claim 10 should be withdrawn. Furthermore, Appellants respectfully assert that the rejection of claims 11, 13-15

and 18 should also be withdrawn at least because of their dependencies upon claim 10 and for the reasons set forth above.

With regard to independent claim 19, Appellants respectfully submit that AAPA and Yang, whether taken singly or combined, do not teach or suggest the claimed combination, including at least the recited feature of “a heat-exhausting layer formed on the protective film.”

The Office Action on page 6 concedes that AAPA and Yang fail to disclose a heat exhausting layer formed on the protective film, but alleges that “[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the heat exhausting layer on the protective film, since it has been held that rearranging parts of the invention involves only routine skill in the art.” However, the assertion of the Office Action lacks any basis or evidence in the prior art itself. Moreover, the Advisory Action alleges that Yang discloses a heat-exhausting layer provided on the protective film. Appellants respectfully disagree with the assertions of Advisory Action for at least the reasons set forth with claim 10.

Further, Appellants respectfully submit that there is no motivation taught or suggested by AAPA and Yang to rearrange the heat exhausting layer on the protective film to obtain the claimed device. MPEP § 2143.01 instructs that “[a]lthough a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.’” Appellants respectfully submit that AAPA and Yang, whether taken singly or combined, do not provide such a suggestion or motivation, and therefore do not teach or suggest “a heat-exhausting layer formed on the protective film,” as recited in independent claim 19.

Thus, Appellants respectfully submit that the Office Action has not established a prima facie case of obviousness against claim 19 and therefore the rejection of claim 19 should be withdrawn. Furthermore, Appellants respectfully assert that the rejection of claims 20-21 and 25 should also be withdrawn at least because of their dependencies upon claim 19 and for the reasons set forth above.

(3) Claims 26-33

Claims 26-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and in view of Shi. Appellants respectfully submit that claim 26 and its dependent claims 27-33 are allowable for at least the following reasons.

With regard to independent claim 26, Appellants respectfully submit that AAPA and Shi, whether taken singly or combined, do not teach or suggest the claimed combination, including at least the recited feature of “a metal thin film provided under the seal cover plate to smoothly transfer heat.”

The Office Action on the page 7 concedes that AAPA does not disclose a metal thin film provided under a seal cover plate, but alleges that Shi at lines 40-63 of column 3, lines 5-30 of column 4 and in Figs. 4,5 discloses an inorganic layer 26 under a foil 30. Moreover, the Advisory Action alleges that although Shi does not explicitly teach that the metal thin film transfers heat from the electroluminescent layer, the metal film 26 being in contact with the metal layer 24 which has its thermal coefficient matching with the buffer layer below, will conduct heat, metals being known in the art to be good conductor of heat. Appellants respectfully disagree with the rationale of the rejection.

Appellants respectfully submit that the metal thin film 41 of the present invention smoothly transfers heat from the electro-luminescent layer. In contrast to the present invention, Shi never teaches or suggests that the inorganic layer 26 can smoothly transfer heat from the electro-luminescent layer. As such, Shi cannot remedy the deficiencies of AAPA. Accordingly, Appellants respectfully submit that AAPA and Shi, whether taken singly or combined, do not teach or suggest “a metal thin film provided under the seal cover plate to smoothly transfer heat,” as recited by independent claim 26.

Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claim 26 and therefore the rejection of claim 26 should be withdrawn. Furthermore, Appellants respectfully assert that the rejection of claims 27-33 should also be withdrawn at least because of their dependencies upon claim 26 and for the reasons set forth above.

(4) Claims 12 and 22

Claims 12 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Gyotoku.

Appellants respectfully submit that the Final Office Action does not rely upon Gyotoku to remedy the deficiencies of AAPA and Yang, as discussed in Section (2). Further, Appellants respectfully submit that Gyotoku cannot remedy the deficiencies of AAPA and Yang. Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claims 12 and 22 and therefore the rejection of claims 12 and 22 should

be withdrawn at least because of their dependencies upon the respective claims 10 and 19 and for the reasons set forth in Section (2).

(5) Claims 12 and 22

Claims 12 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Nakaya et al. (U.S. Patent No. 6,172,458) (hereinafter "Nakaya").

Appellants respectively submit that the Final Office Action does not rely upon Nakaya to remedy the deficiencies of AAPA and Yang, as discussed in Sections (1) and (2). Further, Appellants respectfully submit that Nakaya cannot remedy the deficiencies of AAPA and Yang. Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claims 12 and 22 and therefore the rejection of claims 12 and 22 should be withdrawn at least because of their dependencies upon the respective claims 1, 10 and 19 and for the reasons set forth in Section (2).

(6) Claims 7 and 8

Claims 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA, Yang and Gyotoku and further in view of Gledhill et al. (U.S. Patent No. 6,180,176) (hereinafter "Gledhill").

Appellants respectfully submit that the Final Office Action does not rely upon Gledhill to remedy those deficiencies of AAPA, Yang and Gyotoku, as discussed above in Section (1). Further, Appellants respectfully submit that Gledhill cannot remedy the deficiencies of AAPA,

Yang and Gyotoku. Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claims 7 and 8.

Accordingly, Appellants respectfully assert that the rejection of claims 7 and 8 should also be withdrawn at least because of their dependencies upon claim 1 and for the reasons set forth in Section (1).

(7) Claims 16-17 and 23-24

Claims 16-17 and 23-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA and Yang and further in view of Gledhill.

Appellants respectfully submit that the Final Office Action does not rely upon Gledhill to remedy the deficiencies of AAPA and Yang, as discussed in Section (2). Further, Appellants respectfully submit that and Gledhill cannot remedy the deficiencies of AAPA and Yang.

In addition, with respect to claims 23 and 24, Appellants respectfully assert that the features of dependent claims 23 and 24 are patentable over at least the combination of AAPA, Yang and Gledhill. The Final Office Action concedes on page 10 that Yang does not disclose a feature of the heat exhausting material formed of carbon group material, but cites to Gledhill to allegedly teach this feature. Appellants respectfully disagree. Unlike the present application relating to an electro-luminescence device for a flat panel display, Gledhill relates to elastomer surfaces which are merely used for "components in electrostatographic processes, especially xerographic processes, including digital, image on image and contact electrostatic printing applications," as described in col. 1, lines 11-13 of Gledhill. Appellants respectfully submit that the technology area of Gledhill is not analogous to that of the present invention, and therefore,

there is no motivation for one ordinary skill to look to Gledhill to modify the teachings of AAPA and Yang to have "the heat-exhausting layer is formed from a carbon group material," as recited by claim 23 as well as its dependent claim 24.

Thus, Appellants respectfully assert that the Final Office Action has not established a prima facie case of obviousness against claims 16-17 and 23-24 and therefore the rejection of claims 16-17 and 23-24 should be withdrawn at least because of their dependencies upon claims 10 and 19 and for the reasons set forth above.

#

Therefore, Appellants respectfully assert that independent claims 1, 10, 19 and 26 are in condition for allowance because the all cited references, whether taken singly or combined, do not teach or suggest at least the above cited features. As pointed out in MPEP § 2143.03 instructs that "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974)." Furthermore, Appellants respectfully assert that dependent claims 4-9, 11-18, and 27-33 under 35 U.S. C. § 103(a) are also in condition for allowance at least because of their dependencies upon the respective independent claims 1, 10, 19 and 26, and for the reasons set forth above.

(v) Other Rejections

No claims are presently rejected under grounds other than those referred to above.

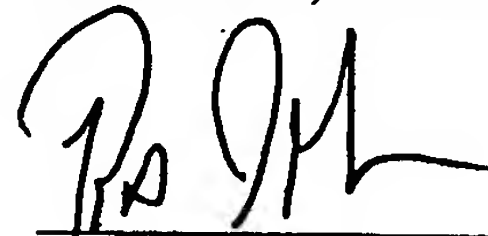
* * * * *

In view of the foregoing, Appellants respectfully request the reversal of the Examiner's rejections and the allowance of the pending claims 1 and 3-33. If there are any other fees due in connection with the filing of this Brief, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account No. 50-0310.

Respectfully submitted,

MORGAN, LEWIS & BOCKIUS LLP

By:



Robert J. Goodell
Reg. No. 41,040

Dated: January 24, 2005

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8. **Appendix A - Claims Ordered By Number**

The text of the claims involved in the appeal are:

Claim 1 (previously presented): An electro-luminescence device, comprising:

a transparent substrate;

a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;

an electro-luminescent layer formed over the plurality of pixel electrodes;

a metal electrode formed on the electro-luminescent layer;

a seal cover plate for sealing the electro-luminescent layer;

a sealant for adhering the seal cover plate to the transparent substrate;

a heat-exhausting layer formed on the metal electrode; and

a protective film formed between the seal cover plate and the heat-exhausting layer

wherein the protective film has a multi-layer structure of at least a moisture-absorbing layer and a moisture-proof layer.

Claims 2-3 (cancelled)

Claim 4 (original): The electro-luminescence device according to claim 1, further comprising:

a moisture-absorbing agent provided at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

Claim 5 (previously presented): The electro-luminescence device according to claim 4, further comprising:

a semi-transmissive film for supporting the moisture absorbing agent to be held at the inner side of the seal cover plate.

Claim 6 (previously presented): The electro-luminescence device according to claim 4, wherein the moisture-absorbing agent is selected from any one of BaO, CaO, CaCO₃, zeolite, silicagel and alumina.

Claim 7 (original): The electro-luminescence device according to claim 1, wherein the heat-exhausting layer is formed from a carbon group material.

Claim 8 (original): The electro-luminescence device according to claim 7, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.

Claim 9 (original): The electro-luminescence device according to claim 1, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.

Claim 10 (original): An electro-luminescence device, comprising:

a transparent substrate;

a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;

an electro-luminescent layer over the plurality of pixel electrodes;

a metal electrode formed on the electro-luminescent layer;

a seal cover plate for sealing the electro-luminescent layer;

a sealant for adhering the seal cover plate to the transparent substrate; and

a heat-exhausting layer formed on the seal cover plate.

Claim 11 (original): The electro-luminescence device according to claim 10, further comprising:

a protective film formed on the metal electrode.

Claim 12 (original): The electro-luminescence device according to claim 11, wherein the protective film has a single-layer structure of a moisture-absorbing layer or a moisture-proof layer, or a multi-layer structure of the moisture-absorbing layer and the moisture-proof layer.

Claim 13 (original): The electro-luminescence device according to claim 10, further comprising:

a moisture-absorbing agent provided at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

Claim 14 (previously presented): The electro-luminescence device according to claim 13, further comprising:

a semi-transmissive film for supporting the moisture absorbing agent to be held at the inner side of the seal cover plate.

Claim 15 (previously presented): The electro-luminescence device according to claim 13, wherein the moisture-absorbing agent is selected from any one of BaO, CaO, CaCO₃, zeolite, silicagel and alumina.

Claim 16 (original): The electro-luminescence device according to claim 10, wherein the heat-exhausting layer is formed from a carbon group material.

Claim 17 (original): The electro-luminescence device according to claim 16, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.

Claim 18 (original): The electro-luminescence device according to claim 10, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.

Claim 19 (previously presented): An electro-luminescence device, comprising:
a transparent substate;

a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;

an electro-luminescent layer over the plurality of pixel electrodes;

a metal electrode formed on the electro-luminescent layer;

a protective film formed on the metal electrode to prevent exposure of the metal electrode; and

a heat-exhausting layer provided on the protective film.

Claim 20 (original): The electro-luminescence device according to claim 19, further comprising:

a seal cover plate provided on the heat-exhausting layer to seal the electro-luminescent layer; and

a sealant for adhering the seal cover plate to the transparent substrate.

Claim 21 (previously presented): The electro-luminescence device according to claim 20, wherein said heat-exhausting layer prevents exposure of the protective film.

Claim 22 (original): The electro-luminescence device according to claim 19, wherein the protective film has a single-layer structure of a moisture-absorbing layer or a moisture-proof layer, or a multi-layer structure of the moisture-absorbing layer and the moisture-proof layer.

Claim 23 (original): The electro-luminescence device according to claim 19, wherein the heat-exhausting layer is formed from a carbon group material.

Claim 24 (original): The electro-luminescence device according to claim 23, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.

Claim 25 (original): The electro-luminescence device according to claim 19, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.

Claim 26 (previously presented): An electro-luminescence device, comprising:

- a transparent substrate;
- a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;
- a plurality of pixel electrodes formed on the plurality of pixel areas;
- an electro-luminescent layer over the plurality of pixel electrodes;
- a metal electrode formed on the electro-luminescent layer;
- a seal cover plate formed in a plane to seal the electro-luminescent layer;
- a metal thin film provided under the seal cover plate to smoothly transfer heat; and
- a sealant for adhering the seal cover plate and the metal thin film to the transparent substrate, said sealant having a space for injecting an inactive gas.

Claim 27 (original): The electro-luminescence device according to claim 26, further comprising:

a moisture-absorbing agent formed at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

Claim 28 (previously presented): The electro-luminescence device according to claim 27, further comprising:

a semi-transmissive film for supporting the moisture absorbing agent to be held at the inner side of the seal cover plate.

Claim 29 (previously presented): The electro-luminescence device according to claim 28, wherein the moisture-absorbing agent is selected from any one of BaO, CaO, CaCO₃, zeolite, silicagel and alumina.

Claim 30 (original): The electro-luminescence device according to claim 28, wherein the metal thin film is provided between the seal cover plate and the moisture-absorbing agent and adheres to the entire surface of the seal cover plate.

Claim 31 (original): The electro-luminescence device according to claim 28, wherein the metal thin film adheres to a portion of the seal cover plate on which the moisture-absorbing agent is not formed.

Claim 32 (original): The electro-luminescence device according to claim 28, wherein the metal thin film adheres to a portion of the seal cover plate on which the moisture-absorbing agent is not formed and the sealant is not attached.

Claim 33 (previously presented): The electro-luminescence device according to claim 26, wherein the sealant is made from an epoxy resin.

9. Appendix B – Evidence

No information is appended under this section.